

Title (en)

Dry-etching-free process for high dielectric and ferroelectric memory cell capacitor

Title (de)

Trockenätzfreier Herstellungsprozess für Speicherzellenkondensatoren mit hohem Dielektrikum oder Ferroelektrikum

Title (fr)

Procédé de fabrication sans attaque sèche d'une mémoire haute diélectrique et ferroélectrique

Publication

**EP 0834912 A2 19980408 (EN)**

Application

**EP 97307794 A 19971002**

Priority

JP 28152796 A 19961002

Abstract (en)

Aims to provide a dielectric capacitor and a dielectric memory device wherein residue is minimal, electric current leakage is minimal, the shape is superior, is suited for enhancing the integration, and has favorable insulation property and an economical and efficient manufacturing method. Dielectric capacitors CAP(1)-CAP(4) which have bottom electrode 29, dielectric films 20 and 34 formed by contacting this bottom electrode, top electrode 23 formed by contacting this dielectric film, and insulation films 21 and 33 provided by contacting the periphery of bottom electrode 29, and wherein elimination part 17 is formed beforehand in said insulation film, bottom electrode 29 adhered at least within said elimination part is formed into smooth concave surface 29a or convex surface 29b according to etch back or chemical-mechanical polishing process, and dielectric film 20 is formed on this surface, dielectric memory devices M-CEL(1)-M-CEL(4) which have these dielectric capacitors, and a manufacturing method for these capacitors or memory cells. <IMAGE>

IPC 1-7

**H01L 21/3205**; **H01L 27/108**

IPC 8 full level

**C23C 18/02** (2006.01); **H01L 21/02** (2006.01); **H01L 21/822** (2006.01); **H01L 21/8247** (2006.01); **H01L 27/04** (2006.01); **H01L 29/788** (2006.01); **H01L 29/792** (2006.01); **H10B 12/00** (2023.01); **H10B 20/00** (2023.01)

CPC (source: EP KR)

**H01L 28/55** (2013.01 - EP); **H01L 28/60** (2013.01 - KR); **H10B 12/0335** (2023.02 - KR); **H10B 12/30** (2023.02 - EP); **H01L 28/65** (2013.01 - EP KR); **H01L 28/75** (2013.01 - KR)

Cited by

EP1115156A4; DE10120302B4; EP1017096A3; US6686265B2; WO0184607A1; WO0184605A1; WO0129885A3; WO0150510A3; US6420190B1; US6885050B2; US6268260B1; WO0075992A1; WO0059011A3

Designated contracting state (EPC)

AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

**EP 0834912 A2 19980408**; **EP 0834912 A3 19991020**; JP H10107223 A 19980424; KR 19980032584 A 19980725; TW 365043 B 19990721

DOCDB simple family (application)

**EP 97307794 A 19971002**; JP 28152796 A 19961002; KR 19970051290 A 19971002; TW 86114546 A 19980323